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A report on selected features of the master's degree program in the Departments of Education and Psychology at the State College of Iowa. One of the objectives of the study was to bring up to date some of the summaries carried through 1958 by previous investigators who reported on the first 7 years of the program. Emphasis in the present report is on the 238 graduate students who completed a master's degree curriculum. Educational background, test performance (ACE, MAT, GPE), graduate grades, and type of educational position held at time of receiving master's degree are reviewed and analyzed.

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THE GRADUATE STUDENT IN PROFESSIONAL EDUCATION AT THE STATE COLLEGE OF IOWA, 1952-1961

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by

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for

The Board of Review
Department of Education and Psychology

June, 1962

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THE GRADUATE STUDENT IN PROFESSIONAL EDUCATION AT THE STATE COLLEGE OF IOWA, 1952-1961

Introduction

This is a report of certain features of the master's degree program in the Department of Education and Psychology at the State College of Iowa. The report covers the first ten years of operation of the graduate program, 1952 through 1961. Emphasis is on the graduate students who have completed a master's degree curriculum in the Department.

The present report is directly related to the earlier work of Howard T. Knutson and Ernest J. Fuhs entitled "The First Seven Years: THE GRADUATE STUDENT IN PROFESSIONAL EDUCATION, 1952-1958." We have been guided by the format established by Knutson and Fuhs. One of the objectives in the present investigation was to bring up to date some of the summaries carried through 1958 by the previous investigators. However, we have omitted some of the topics treated in the earlier report and have added others which seemed deserving of attention. In the present paper it was not necessary to deal with the history of the SCI graduate program; that had been done in "The First Seven Years." The most significant recent extension of the graduate program in the Department occurred with the authorization to offer areas of emphasis leading to the degree Specialist in Education. Thus far only one individual has earned that degree -- in August of 1961.

The following page contains a list of the fourteen tables included in the report. The report proper is organized in such a manner that two pages are devoted to the material presented in each table; there is one page of discussion followed by the table itself. The writer has included in the expositions some opinions for which he alone is responsible, and has felt free to draw upon supplementary information when it seemed helpful. Furthermore, in the presentation and interpretation of data there was no inclination to portray the graduate experience in either a favorable or an unfavorable light. Certainly one of the purposes of the study here reported was to bring under scrutiny important aspects of the graduate program so that improvements may be sought as necessary.

The absence of a section containing suggestions for future inquiries does not reflect inattention to additional studies of the graduate program. The Board of Review of the Department is sensitive to other useful avenues of investigation -- some completed, some underway, and several anticipated.

GJR
June, 1962

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The first year in which the college graduated students with the master's degree was 1953. The non-thesis option became available in 1958. It is shown in Table I that during the six calendar years 1953 through 1958 there were 238 M.A. graduates, and during the three calendar years 1959 through 1961 there were 346. The increase in annual number of graduates reflects the attractiveness of the non-thesis plan and the trend toward a larger student enrollment.

For the three full years in which both the thesis and the non-thesis plans were available, 24 per cent of the graduates utilized the former and 76 per cent the latter. Within the Department the corresponding percentages on thesis and non-thesis arragnements were the same as for the total college. It is probable that some of the theses completed 1959-1961 were well underway before the non-thesis option was introduced in 1958. For institutions throughout the United States, only about 12 per cent of the master's degrees in education involve thesis research. Silvey's Master's Theses in Education, No. 10, for 1960-1961, summarized the facts for 28,630 master's graduates.

For the nine-year period included in this report, 41 per cent of the master's degree graduates were in the Department of Education and Psychology. The last three years of the period showed a proportion slightly in excess of one-third.

Number of semester hours of grades assigned to graduate students at this college is another basis for estimating the proportion of the graduate program of the institution which is carried by the Department of Education and Psychology. For the academic year 1960-1961 the per cent was 37, and for the summer session of 1961 (eight weeks), 48 per cent. It appears, then, that the Department is involved in approximately two-fifths of the graduate work of the entire college.

TABLE I

ANNUAL NUMBER OF MASTER'S DEGREES FOR THE COLLEGE AND FOR THE DEPARTMENT OF EDUCATION AND PSYCHOLOGY, THESIS AND NON-THESIS, 1953-1961

Year of Graduation	Entire College			Department of Education and Psychology			Per Cent of Total Master's Degrees in Education and Psychology
	Thesis	Non-Thesis	Total	Thesis	Non-Thesis	Total	
1953	12	X	12	5	X	5	42%
1954	35	X	35	11	X	11	31%
1955	38	X	38	14	X	14	37%
1956	37	X	37	18	X	18	49%
1957	38	X	38	24	X	24	63%
1958	57	21	78	26	17	43	55%
1959	31	84	115	10	30	40	35%
1960	26	95	121	13	32	45	37%
1961	26	84	110	8	30	38	35%
Total	300	284	584	129	109	238	41%

NOTE: Numbers of master's degree graduates reported in Table I were obtained by referring to printed commencement programs. One name included here (that of Bejrananda of 1960) was omitted from the printed programs;this individual was awarded the degree at a time other than a regular graduation date -- February, June, or August. The above table, which indicates a total of 300 degrees with thesis, does not include two individuals who were actually granted the degree after the regular August, 1961, convocation but before the end of the calendar year 1961.

In the interpretation of Table II it must be realized that two of the six areas of emphasis were not authorized at the outset; Guidance and Counseling was introduced in 1954, and Superintendency in 1955. By 1961, preparation at the master's level was insufficient to qualify an individual for state certificate endorsement in the Superintendency area. Any classification of graduate emphases in education and psychology is somewhat arbitrary, and some categories will be broader than others. In this instance Secondary Principalship is rather inclusive; it would be the field of concentration for a student interested primarily in secondary school curriculum as well as for a student inclined toward administration. Similarly, Guidance and Counseling would probably be the choice of emphasis of an individual leaning toward statistics and measurement. Secondary Principalship and Guidance and Counseling together accounted for more than half of the 238 degrees -- 31 per cent and 24 per cent, respectively.

The thesis and non-thesis breakdown for the period 1959-1961 is of interest. The percentage division for the Department was 24 and 76. In the Secondary Principalship category there were 36 graduates; 8 (22 per cent) did a thesis. Guidance and Counseling had 39 graduates, and the 8 who completed a thesis represented 21 per cent of the group. The three elementary emphases had a total of 34 graduates; 12 (35 per cent) utilized the thesis route.

The relatively small numbers of graduates within categories make it hazardous and rather meaningless to attempt to identify trends. However, it is true that for the calendar year 1961 the number of Guidance and Counseling graduates increased substantially, but the proportion doing a thesis dropped appreciably. The three elementary emphases had fewer graduates than heretofore.

TABLE II

ANNUAL NUMBER OF MASTER'S DEGREES IN SIX AREAS
OF EMPHASIS IN EDUCATION AND PSYCHOLOGY,
THESIS AND NON-THESIS, 1953-1961

Year	Graduate Area of Emphasis																				
	Superintendency			Secondary Principalship			Elementary Principalship			Elementary Supervision			Elementary Teaching			Guidance and Counseling			Total		
	Thesis	Non-Thesis	Total	Th.	Non-Th.	To.	Th.	Non-Th.	To.	Th.	Non-Th.	To.	Th.	Non-Th.	To.	Th.	Non-Th.	To.	Th.	Non-Th.	To.
1953	X	X	X	4	X	4	1	X	1	X	X	X	X	X	X	X	X	X	5	X	5
1954	X	X	X	6	X	6	1	X	1	2	X	2	1	X	1	1	X	1	11	X	11
1955	X	X	X	3	X	3	4	X	4	1	X	1	4	X	4	2	X	2	14	X	14
1956	1	X	1	9	X	9	4	X	4	1	X	1	1	X	1	2	X	2	18	X	18
1957	7	X	7	3	X	3	4	X	4	3	X	3	4	X	4	3	X	3	24	X	24
1958	6	4	10	5	8	13	4	2	6	2	X	2	2	1	3	7	2	9	26	17	43
1959	1	6	7	1	11	12	1	4	5	1	X	1	3	2	5	3	7	10	10	30	40
1960	2	5	7	2	8	10	3	8	11	2	1	3	2	2	4	2	8	10	13	32	45
1961	X	X	X	5	9	14	X	4	4	X	X	X	X	1	1	3	16	19	8	30	38
Total	17	15	32	38	36	74	22	18	40	12	1	13	17	6	23	23	33	56	129	109	238

It is impossible to specify the extent and quality of faculty participation in the supervision of thesis projects. Any serious attempt of this kind would need to take into account the following: instances in which there were actually co-chairmen, but one staff member had the official designation of chairman; the number of committees on which a staff member served as member but not chairman; the situation in which a faculty person was not a member of the committee but assisted importantly with sources of information, statistical analysis, or matters of style; the intellectual and research challenge to the student provided by the instructor; the promptness, thoroughness, and scholastic insight displayed by the staff member; the general work load borne by the faculty member; the extent to which theses were in the area of specialization of the given staff member.

Probably the most striking aspect of Table III is the fact that eight members of the Department have chaired a total of 93 (72 per cent) of the thesis committees of the graduates. All eight of these staff members have been with the college essentially all the time since graduate work was inaugurated. Versatility in serving as thesis chairman is probably not deducible from the data provided. However, one staff member is represented in four of the six emphases, and three staff members worked in three of the areas.

Concentration of the direction of theses within a given emphaseis among just a few staff members was most realized in Superintendency (17 theses, four staff members). It was least apparent in Elementary Teaching, in which the 17 theses were distributed among eleven different instructors.

TABLE III

NAMES OF FACULTY MEMBERS WHO SERVED AS THESIS COMMITTEE CHAIRMEN, ACCORDING TO AREA OF EMPHASIS (1953-1961)

Committee Chairman	Graduate Area of Emphasis						
	Superintendency	Secondary Principalship	Elementary Principalship	Elementary Supervision	Elementary Teaching	Guidance and Counseling	Total
Wray D. Silvey		1				15	16
F. E. Martindale			14		1		15
Howard Knutson	10	4					14
Gordon J. Rhum	2	10				1	13
O. E. Thompson	4	7					11
C. L. Bishop		7	1			1	9
William H. Dreier		1	1	5	1		8
Julia Sparrow			2	3	2		7
Miles V. Zintz				2	2		4
Robert J. Adrian					2	1	3
Esther Hult				1	2		3
H. A. Riebe		3					3
M. J. Wilcox			2		1		3
R. P. Brimm		3					3
E. C. Denny			1		1		2
Malcolm Price	1	1					2
Albert E. Uecker					2		2
George Ball						2	2
Margret Buswell Nelson					1		1
Calvin Daane						2	2
Walter DeKock		1					1
E. W. Hamilton					1		1
Nellie D. Hampton					1		1
Bernice Helff			1				1
Richard T. Lattin				1			1
Merritt Melberg						1	1
Total	17	38	22	12	17	23	129

The seven most active staff members headed 86 of the 129 thesis committees. Miller Analogies Test percentile rank medians for the seven subgroups of master's graduates varied considerably. These "within staff member" medians were as follows: Bishop, 75; W. Silvey, 67; Dreier, 65; Thompson, 61; Knutson, 47; Martindale, 45; Rhum, 32.

Information regarding thesis content is provided in Table IV. Seven content categories were identified; the only one in which the terminology is identical with an emphasis is Guidance and Counseling. There was no particular basis for arriving at the seven content categories, but it was believed that the pattern selected would be a useful one. Each staff member who had served as a thesis committee chairman was given a list of the names of his M.A. graduates and asked to classify each thesis according to content. For each thesis the committee chairman indicated a first and a second choice of classification.

Superintendency research projects were, as expected, centered in the category of organization, administration, management; 9 of the 17 theses were so classified. Curriculum was the content category involved in 6 of the Superintendency projects. Of the 38 Secondary Principalship theses, 14 were considered of a curriculum type and 12 related to organization, administration, management. The 22 Elementary Principalship theses were located mainly in two categories -- 9 in organization, administration, management and 9 in curriculum. Of the 17 projects completed by majors in Elementary Teaching, 10 were labeled curriculum. With Guidance and Counseling it is probably more instructive to note the "second choice" classification than the first designations; curriculum was the number two placement of 10 of the 23 theses.

Greatest diversification of content among the theses in any of the six areas of emphasis was noted for Elementary Principalship; the 22 theses were distributed over six of the seven content categories. The least diversification was present among the research projects reported under Superintendency and under Guidance and Counseling.

TABLE IV

CLASSIFICATION OF THESES BY AREA OF EMPHASIS
AMONG SEVEN SPECIFIED CONTENT CATEGORIES

Area of Emphasis	No. of Theses	Thesis Content Category							Total
		Organization, Administration, Management	Public Relations	Curriculum	Audio-Visual	Guidance and Counseling	Testing and Measurement	Special Education	
Superintendency	17	F 9 S 3	1 9	6 1	0 1	1 3	- -	- -	17 17
Secondary Principalship	38	F12 S18	4 6	14 8	3 0	5 5	- 1	- -	38 38
Elementary Principalship	22	F 9 S 7	1 1	9 5	1 1	1 6	1 1	- 1	22 22
Elementary Supervision	12	F 7 S 3	- 4	3 2	- -	- 2	1 -	1 1	12 12
Elementary Teaching	17	F - S 3	1 -	10 4	- -	3 4	1 4	2 2	17 17
Guidance and Counseling	23	F - S 4	- -	1 10	- -	20 2	2 5	- 2	23 23
Total	129	F37 S38	7 20	43 30	4 2	30 22	5 11	3 6	129 129

Chairman of thesis committee classified each thesis by indicating a first preference of placement (F) and a second preference (S).

From Table V two main facts are evident. A majority of those who have earned the master's degree at this institution in the Department of Education and Psychology had previously qualified for a bachelor's degree here also -- 163 of the 238, or 68 per cent. The second main fact is that no other one institution provided the baccalaureate background for a sizable proportion of the remaining 75 master's graduates. They were distributed among 40 different institutions.

Of the 75 non-ISTC bachelor's degrees represented in the summary, 42 were from Iowa colleges and universities. It is noteworthy that 6 of the 75 bachelor's degrees had been secured at colleges outside the United States. An interesting and useful inquiry could be conducted regarding the reasons these 75 individuals selected this college as a place for graduate study in education and psychology. Such investigations have been carried out among undergraduates here.

The academic work completed elsewhere sometimes resulted in a bachelor's degree in each of two areas, say mathematics and education, or perhaps both a bachelor's degree and a master's degree in education. This was occasionally true for students from other countries.

It may be observed that the variation in name for a given institution gives rise to some confusion and uncertainty. For example, Table V contains separate entries for Westmas College and Western Union College; perhaps there should have been but a single entry with a frequency of 3. Again, the University of Minnesota is listed twice; in one case it is the Duluth Branch. Iowa State Teachers College and Iowa State College are among the now non-existent titles represented in Table V.

TABLE V

INSTITUTIONS FROM WHICH IOWA STATE TEACHERS COLLEGE MASTER'S DEGREE GRADUATES IN EDUCATION AND PSYCHOLOGY RECEIVED THEIR BACHELOR'S DEGREES

Institution	Number
Iowa State Teachers College, Cedar Falls, Iowa	163
Upper Iowa University, Fayette, Iowa	7
Wartburg College, Waverly, Iowa	6
State University of Iowa, Iowa City, Iowa	5
Luther College, Decorah, Iowa	5
Iowa State College, Ames, Iowa	5
Buena Vista College, Storm Lake, Iowa	3
Drake University, Des Moines, Iowa	3
University of Hawaii, Honolulu, Hawaii	2
St. Olaf College, Northfield, Minnesota	2
Ohio University, Athens, Ohio	2
Westmar College, LeMars, Iowa	2
Loras College, Dubuque, Iowa	2
Morningside College, Sioux City, Iowa	2
University of Minnesota, Minneapolis, Minnesota	2
Ball State Teachers College, Muncie, Indiana	2
University of Wyoming, Laramie, Wyoming	1
Valparaiso University, Valparaiso, Indiana	1
St. Ambrose College, Davenport, Iowa	1
Maryknoll College, Quezon City, Philippines	1
Superior State College, Superior, Wisconsin	1
Iowa Wesleyan College, Mount Pleasant, Iowa	1
Muslim University, Aligarh, India	1
Colorado State College of Education, Greeley, Colorado	1
University of Panama, Panama	1
Northwestern University, Evanston, Illinois	1
The King's College, King's College, Delaware	1
Seoul National University, Seoul, Korea	1
Western Union College, Le Mars, Iowa	1
Central College, Pella, Iowa	1
Western State College of Colorado, Gunnison, Colorado	1
De Paul University, Chicago, Illinois	1
Western Illinois State College, Macomb, Illinois	1
University of Minnesota, Duluth, Minnesota	1
Clarke College, Dubuque, Iowa	1
Concordia Teachers College, River Forest, Illinois	1
College of Education, Bangkok, Thailand	1
Jamia Millia Islamia, New Delhi, India	1
Dana College, Blair, Nebraska	1
Arkansas State Teachers College, Conway, Arkansas	1
Parsons College, Fairfield, Iowa	1
Total	238

The undergraduate major of each of the 238 master's graduates was ascertained. In cases of a so-called "double major" the first one listed in the basic records was utilized. Social science and physical education together accounted for 87, or 37 per cent, of the undergraduate majors; these facts appear in Table VI. Included in the remaining 151 majors were 63 which would be located in the Department of Education and Psychology according to the organization of this college.

For certain purposes undergraduate academic fields are limited to social science, science, mathematics, English, and foreign language. These five fields contributed 95 of the 238 students. Social science yielded 47 of the 95, followed by science with 23.

There was some relationship between the field of concentration at the undergraduate level and at the graduate level. This is apparent with respect to the graduate emphasis in Elementary Supervision; 10 of the13 individuals came out of undergraduate specialization in elementary education. It is also apparent with respect to the undergraduate major of physical education; 22 of the 40 individuals are included in the graduate emphasis category of Secondary Principalship. These are the only two instances of special relationships which should be singled out -- one indicative of a concentration of persons of a given graduate emphasis within one undergraduate major, the other indicative of a concentration of persons of a given undergraduate major within one graduate emphasis.

A minor fact is associated with the undergraduate backgrounds of persons included in the Superintendency emphasis. Each of two undergraduate majors accounted for 6 of the 32 master's graduates, but this represented a much greater proportion of the business education subgroup than of the physical education subgroup.

TABLE VI

THE UNDERGRADUATE MAJOR FIELDS OF THE MASTER'S DEGREE GRADUATES ACCORDING TO AREA OF EMPHASIS

Undergraduate Major	Graduate Area of Emphasis						
	Superintendency	Secondary Principalship	Elementary Principalship	Elementary Supervision	Elementary Teaching	Guidance and Counseling	Total
Social Science	5	16	6	1	3	16	47
Physical Education (For men & women)	6	22	2	-	1	9	40
Junior High Education	2	5	11	-	1	5	24
Elementary Education	-	1	6	10	4	2	23
Science	3	10	4	1	-	5	23
Business Education	6	4	1	-	1	6	18
Mathematics	4	6	2	-	1	-	13
English	2	1	2	-	1	5	11
Kindergarten and Primary Education	-	-	3	1	7	-	11
Industrial Arts	1	6	1	-	-	1	9
Speech	1	-	1	-	-	4	6
Music	1	2	1	-	1	-	5
Education and Psychology	1	-	1	-	2	1	5
Home Economics	-	-	-	-	-	2	2
Foreign Language	-	-	-	-	1	-	1
Total number of individuals	32	73	41	13	23	56	238

A summary of the types of educational positions held by the 123 graduates of 1959-1961 at the time of receiving the master's degree is presented in Table VII. This information was obtained by securing from each faculty adviser involved the exact facts concerning educational position of the graduate for each of two consecutive years. These facts are a part of the follow-up information available in the Department of Education and Psychology for all M.A. graduates. In the instances in which an individual received the master's degree during the summer, the position held was the one for the preceding academic year. There were some cases in which the faculty adviser was unable to provide the desired information concerning the location of a former student. The investigators then utilized one or more of several approaches to secure the facts -- direct correspondence, a search of educational directories, consultation with college staff members in the Placement Bureau and the Alumni Office.

The evidence reported in Table VII is subject to some uncertainties -- possible lack of agreement in definitions of terms, difficulty of classifying persons with divided responsibilities, influence of state certification regulations regarding permissible educational assignments, and the official and unofficial exceptions to regular certification requirements.

The Guidance and Counseling emphasis accounted for 39 graduates, 22 of whom held actual positions in that field. In the Secondary Principalship emphasis, 11 of the 36 graduates were serving in that capacity and another 19 were secondary teachers. A "horizontal" analysis within Table VII shows that of the 24 persons actively engaged in guidance and counseling, 22 had followed that area of emphasis.

TABLE VII

POSITIONS HELD BY THE MASTER'S DEGREE GRADUATES OF 1959-1961
AT THE TIME OF RECEIVING THE DEGREE

Position	Graduate Area of Emphasis						Total
	Superintendency	Secondary Principalship	Elementary Principalship	Elementary Supervision	Elementary Teaching	Guidance and Counseling	
Elementary Teacher	-	-	6	-	5	1	12
Elementary Principal	-	1	8	1	-	-	10
Elementary Supervisor or Director	-	-	1	2	-	-	3
Secondary Teacher	3	19	4	-	1	9	36
Secondary Principal	6	11	-	-	-	1	18
Secondary Supervisor or Co-ordinator	2	-	-	-	-	-	2
Guidance Counselor or Director	-	1	-	-	1	17	19
Half-time Counselor	-	-	-	-	-	5	5
Superintendent	3	-	-	-	-	-	3
College Teacher	-	1	-	-	1	1	3
Full-time Student	-	3	2	1	-	5	11
No position	-	-	-	-	1	-	1
Total number of individuals in each area of emphasis	14	36	21	4	9	39	123

It was indicated on page 12 that 163 of the 238 master's graduates had earned the bachelor's degree at Iowa State Teachers College. For 152 of these 163 individuals it was possible to locate scores earned on the A.C.E. Psychological Examination at the beginning of the freshman year in college. These ratings were expressed as percentile ranks for the local population of college freshmen. This institution has conducted a rather complete placement testing program annually since 1929, and there are thus available indices of aptitude and achievement which are extremely valuable in investigations such as this one.

It is encouraging to note that of the ten percentile intervals represented in Table VIII, the two highest ones contained the largest frequencies. The typical performance for the master's graduates was at the 70th percentile. The fluctation of median ratings among the seven areas of emphasis was relatively small -- from 65 to 79. This evidence would not suggest any definite relative superiority (or inferiority) in mental ability of the students in certain departmental areas of emphasis.

It will be seen that only 35 of the 152 individuals had rated in the lower half of the freshman class according to this test criterion; 117 had scored in the upper half. It is probable that this ability level compares favorably with that which obtains at other institutions thought to be somewhat similar to State College of Iowa. On the other hand, one is tempted to wonder about the circumstances which resulted in 14 of the persons performing below the 30th percentile among ISTC freshmen, yet ultimately achieving a master's degree.

TABLE VIII

PERFORMANCE AS COLLEGE FRESHMEN AT ISTC
ON A. C. E. PSYCHOLOGICAL EXAMINATION

(152 of the 238 Master's Degree Graduates)

Percentile Intervals (ISTC Fr. Norms)	Graduate Area of Emphasis						Total
	Superintendency	Secondary Principalship	Elementary Principalship	Elementary Supervision	Elementary Teaching	Guidance and Counseling	
90 - 99	5	10	10	2	-	7	34
80 - 89	3	8	3	1	4	10	29
70 - 79	1	6	3	1	3	1	15
60 - 69	1	8	3	1	1	4	18
50 - 59	3	13	1	1	1	2	21
40 - 49	1	3	3	1	-	3	11
30 - 39	1	4	1	-	2	2	10
20 - 29	1	1	1	-	-	1	4
10 - 19	-	3	-	2	-	3	8
0 - 9	1	-	-	-	-	1	2
Total no. of individuals	17	56	25	9	11	34	152
Median	75	65	71	65	75	79	70

The Miller Analogies Test is described by the publisher as an instrument for measuring scholastic aptitude at the graduate school level. Table IX contains a distribution of scores on this test for the 238 master's degree graduates of the Department. A graduate student ordinarily takes the Miller Analogies Test during his first summer session or semester of regular enrollment. A few students repeat the examination, but all scores included in the summary are from first testings. Test performance is expressed as a percentile rank. Actually some graduate students who have no intention of working toward a degree are excused from taking the Miller Analogies Test. The median performance for the 238 graduates was at the 55th percentile, and this must be interpreted in terms of a college-wide incoming group of graduate students. It is likely that for all 584 master's degree graduates of the college (through 1961), the median MAT score is slightly higher than the 55th percentile.

It is instructive to inspect the final column of Table IX and to note the general uniformity of frequency for the top eight of the ten MAT percentile intervals. Only for the intervals 10-19 and 0-9 do the numbers of cases decrease markedly. The modal interval is 20-29.

There is little variation in typical performance among the students of the seven areas of emphasis; Elementary Supervision showed the highest median, 62. Lowest typical test score was in the category of Superintendency, 50.

In general, the Miller Analogies Test results suggest that the level of mental ability of the master's graduates in education and psychology was satisfactory. Certainly one would anticipate substantial variation on this variable. A caution should be recognized at this point. The graduate program under review is at the <u>master's</u> level, not the <u>doctor's</u>.

TABLE IX

TEST PERFORMANCE IN DEPARTMENT OF EDUCATION
AND PSYCHOLOGY, IOWA STATE TEACHERS COLLEGE
MILLER ANALOGIES TEST

Percentile Interval	Graduate Area of Emphasis						Total
	Superintendency	Secondary Principalship	Elementary Principalship	Elementary Supervision	Elementary Teaching	Guidance and Counseling	
90 - 99	4	5	3	2	2	6	22
80 - 89	4	10	4	1	2	4	25
70 - 79	2	8	7	2	4	6	29
60 - 69	2	7	6	2	3	8	28
50 - 59	4	9	8	1	2	7	31
40 - 49	8	9	3	-	1	6	27
30 - 39	6	9	3	2	2	6	28
20 - 29	2	11	5	1	4	9	32
10 - 19	-	2	1	-	-	1	4
0 - 9	-	3	1	2	3	3	12
Total Numb. of individuals in each area of emphasis	32	73	41	13	23	56	238
Median percentile rank	50	53	59	62	57	54	55

The General Professional Examination is a locally-constructed objective test designed to assess students' understanding of the common professional courses, including student teaching, required on a teacher preparation curriculum at the undergraduate level. There was an effort to construct the examination without undue attention to the specific program conducted at this college. Graduate students are encouraged to take the GPE during the first term of regular enrollment.

It may be seen from Table X that the 238 master's graduates of the Department scored appreciably above the norm established for incoming graduate students throughout the college; the median percentile rank was 66. This relatively strong showing on the professional examination would be expected, since the students are majoring in the general field covered by the test. Performance on this test was appreciably higher than on the Miller Analogies Test which had yielded a median of 55.

Variation in median ratings among the seven areas of emphasis was from 56 to 72. Two of the emphases revealed only slightly higher medians on the GPE than on the MAT -- Secondary Principalship, 56 and 53; Elementary Supervision, 65 and 62.

The frequency distribution on the GPE, Total, shows that 90 of the 238 individuals were in the upper 20 per cent of the normative distribution, whereas only 18 of the 238 were in the lowest fifth.

The breakdown for the four parts of the examination is of interest. For example, in the Superintendency emphasis 19 of the 32 students scored in the upper 30 per cent on school organization and administration. In Guidance and Counseling 18 of the 56 persons were in the upper 10 per cent on the teaching and learning section. Elementary Teaching had 23 graduates, and 9 of them rated in the top 10 per cent on the teaching and learning part of the examination.

TABLE X

TEST PERFORMANCE IN DEPARTMENT OF EDUCATION AND PSYCHOLOGY, IOWA STATE TEACHERS COLLEGE GENERAL PROFESSIONAL EXAMINATION

Percentile Interval (ISTC Norms)	Number of Master's Degree Graduates Scoring in Each Percentile Interval on Each Part of the Test and on Total Test, by Area of Emphasis										Total No. of individuals in each interval on Total
	Superintendency		Secondary Principalship		Elementary Principalship		Elementary Supervision		Elementary Teaching		Guidance and Counseling	
	1 2 3 4 T		1 2 3 4 T		1 2 3 4 T		1 2 3 4 T		1 2 3 4 T		1 2 3 4 T	
90 - 99	5 2 5 5 6		8 13 11 10 11		7 10 9 5 8		5 3 4 4 6		7 9 2 2 6		11 13 11 8 14	51
80 - 89	2 5 10 6 5		10 10 4 11 13		9 8 4 2 8		1 3 2 1 -		4 3 6 3 1		9 6 3 11 12	39
70 - 79	3 3 4 4 2		12 6 8 6 6		6 6 4 8 5		- 1 1 1 -		4 2 1 1 6		8 6 10 7 2	21
60 - 69	4 4 2 4 1		6 4 16 8 6		5 4 8 3 7		1 1 1 2 1		- 3 4 1 1		6 9 5 5 8	24
50 - 59	4 5 1 1 7		9 8 7 12 7		7 5 4 4 6		1 1 1 - 1		2 2 1 3 2		8 2 7 7 9	32
40 - 49	2 3 1 4 3		3 9 6 12 10		2 4 4 9 4		1 1 - 1 2		2 2 1 3 2		4 3 1 2 4	25
30 - 39	5 7 3 3 3		12 4 6 5 6		1 2 1 4 1		2 2 2 - 2		- 1 2 2 2		2 3 4 10 -	14
20 - 29	3 1 3 3 4		1 3 4 4 6		1 - 3 4 -		1 1 1 2 -		1 - 3 2 1		7 5 6 3 3	14
10 - 19	3 1 2 2 1		9 4 6 2 6		3 1 1 2 2		1 - 1 1 1		1 - 2 4 -		1 2 2 2 4	14
0 - 9	1 1 1 - -		3 12 5 1 2		- 1 3 - -		- - - 1 -		2 1 1 2 2		- 2 2 1 •	4
Total No. of individuals	32		73		41		13		23		56	238
Median Percentile Rank	57		56		71		65		72		70	66

Parts of the Examination:
1. Child Development
2. Teaching and Learning
3. Organization and Administration
4. School and Society

The undergraduate scholastic records of 163 master's graduates are summarized in Table XI. These students represent the portion of the 238 master's graduates in the Department of Education and Psychology who had completed a bachelor's degree program at ISTC. The over-all grade point median was 2.70. This value may be compared with a median grade point average for bachelor's graduates generally of approximately 2.46. Another way in which the 2.70 may be interpreted is to note that for a cross section of ISTC graduating seniors such a scholastic average would have a percentile rank of the order of 70 to 72.

The median indexes vary among the seven areas of emphasis between the 2.52 for Superintendency and the 2.96 in Elementary Teaching. It is recognized that the significance of these medians is somewhat dependent upon the undergraduate majors of the individuals who comprise the subgroups. It is instructive to refer to certain facts concerning A.C.E. Psychological Examination scores for 152 of these 163 persons (page 18). Although a comparison is slightly influenced by the lack of complete overlap in the samples, and certainly by the rather small N's, it is nevertheless interesting to observe that although Superintendency was the lowest of the six emphasis groups on the achievement index, it was not below average for the groups on the aptitude measure.

From the grouped frequency table for undergraduate grade point averages it may be seen that 9 of the 167 (6 per cent) of the master's graduates had indexes of 3.40 or higher. This is equivalent to a percentile rank among graduating seniors of 97 or above. At the lower end of the distribution there were 31 of the 163 individuals (19 per cent) whose scholastic indexes were 2.39 or below. This is equivalent to a percentile rank of 43 or less among graduating seniors.

TABLE XI

UNDERGRADUATE GRADE POINT AVERAGES FOR 163 MASTER'S DEGREE GRADUATES WHO RECEIVED THE B.A. DEGREE AT THE IOWA STATE TEACHERS COLLEGE

Undergrad. Grade Pnt. Average	Graduate Area of Emphasis						Total
	Superintendency	Secondary Principalship	Elementary Principalship	Elementary Supervision	Elementary Teaching	Guidance and Counseling	
4.00	-	-	-	-	-	-	-
3.80-3.99	-	-	-	1	-	-	1
3.60-3.79	-	1	-	-	1	2	4
3.40-3.59	-	1	2	-	-	1	4
3.20-3.39	1	2	2	-	2	3	10
3.00-3.19	1	7	3	2	3	3	19
2.80-2.99	3	6	4	1	6	6	26
2.60-2.79	2	12	9	3	1	11	38
2.40-2.59	4	12	3	2	-	9	30
2.20-2.39	5	9	3	-	1	2	20
2.00-2.19	1	6	1	1	-	-	9
Below 2.00	-	1	-	-	-	1	2
Total no. of individuals	17	57	27	10	14	33	163
Median	2.52	2.61	2.74	2.73	2.96	2.72	2.70

The graduate grade point indexes for the 238 individuals are summarized in Table XII. There is little fluctuation among areas of emphasis; Superintendency (3.30) and Secondary Principalship (3.29) were the lowest, and Elementary Supervision (3.55) the highest. It is evident from the frequency column for the total sample that the distribution is fairly rectangular from 3.00 to 3.79. Cumulative averages of 3.80 or higher were achieved by 18 of the individuals (8 per cent).

There are certain relationships between scholastic aptitude and achievement at the graduate level which may be noted by comparing Table IX, page 20, and Table XII. For the six areas of emphasis in graduate study Elementary Supervision showed the highest median on both the Miller Analogies Test and the scholastic averages. Superintendency and Secondary Principalship were the two lowest subgroups on both measures.

Graduate grade point indexes may be considered in the light of evidence concerning marks assigned in graduate courses throughout the college. The mean of all grades assigned has decreased from 3.33 during the academic year 1953-1954 to 3.12 in 1960-1961. For the latter academic year the percentile distribution of letter marks was as follows: A, 30; B, 56; C, 12; D or F, 2. A graduate student must maintain an average of 3.00 or higher for admission to candidacy and for graduation. Courses in which the mark is less than C do not help fulfill graduation requirements.

The Department of Education and Psychology had a general index of 3.11 for all graduate grades assigned during the year 1960-1961. Following are the over-all indexes within each of several other departments which offer considerable graduate work: Languages, Speech and Literature, 3.31; Business Education, 3.29; Mathematics, 3.17; Science, 3.13; Industrial Arts, 3.01; Social Science, 2.93.

TABLE XII

GRADUATE GRADE POINT AVERAGES

Graduate Grade Pt. Average	Graduate Area of Emphasis						Total
	Superintendency	Secondary Principalship	Elementary Principalship	Elementary Supervision	Elementary Teaching	Guidance and Counseling	
4.00	-	1	-	1	1	2	5
3.90-3.99	1	2	1	-	-	2	6
3.80-3.89	-	3	1	1	1	1	7
3.70-3.79	1	2	2	3	5	8	21
3.60-3.69	1	5	7	2	-	8	23
3.50-3.59	5	8	4	-	2	6	25
3.40-3.49	3	9	6	-	2	7	27
3.30-3.39	5	6	7	2	3	5	28
3.20-3.29	7	15	1	1	4	8	36
3.10-3.19	6	9	5	2	4	5	31
3.00-3.09	3	13	7	1	1	3	28
Below 3.00	-	-	-	-	-	1	1
Total no. of individuals	32	73	41	13	23	56	238
Median	3.30	3.29	3.40	3.55	3.38	3.48	3.38

In Table XIII are reported the means and standard deviations for five variables involved in this investigation: Miller Analogies Test, General Professional Examination, graduate grade point, undergraduate grade point, and A.C.E. Psychological Examination. Test scores were percentile ranks determined by norms of this college. Grade point averages were derived from a five-letter marking system in which an A has 4 honor points, a B 3 honor points, down to an F with no honor points. These data supplement some of the facts already reported in tabular form. In some of the previous discussions the median was utilized as the measure of central tendency. For example, for 163 individuals the undergraduate grade point mean was 2.72, and the median was 2.70 (page 24).

One of the findings from the summarization represented in Table XIII is that the typical academic ability of the 163 persons with undergraduate background at ISTC was almost identical with that of the 75 persons whose undergraduate work was obtained on other campuses. The nature of the commentary at this point could be revealing. It might be observed that the results should dispel any concern as to whether the products of sister institutions are on an intellectual par with the graduates of this institution. Or it could be noted that the ability level ofthe graduate study body has not been raised through the medium of securing more students whose undergraduate backgrounds are non-ISTC.

The descriptive statistics contained in Table XIII constitute a necessary adjunct to the correlation data presented on page 30. The means and sigmas may also be useful in additional analyses and interpretations of some of the basic evidence.

TABLE XIII

MEANS AND STANDARD DEVIATIONS OF TEST SCORES
AND GRADE POINT AVERAGES

Variable	Mean	Standard Deviation	Number of Individuals
Miller Analogies Test Percentile Rank (Graduate Norms)	54.63 (54.33)*	23.02	238
General Professional Examination Percentile Rank (Graduate Norms)	63.32 (64.21)*	26.38	238
Graduate Grade Point Average	3.40 (3.42)*	0.32	238
Undergraduate Grade Point Average	2.72	0.42	163
A. C. E. Psychological Test Percentile Rank (Undergraduate Norms)	67.30	24.63	152

* The figures represent the means calculated over the 163 individuals who received both the Master's Degree and the Bachelor's Degree from the Iowa State Teachers College.

The intercorrelations reported in Table XIV are probably of most interest with reference to the continuing problem of predicting academic success at the master's level. None of the four other variables proved to be strongly related to the criterion of graduate grade point average. The r's were as follows:

Undergraduate grade point.....	.42
General Professional Examination	.34
Miller Analogies Test	.30
A. C. E. Psychological Examination	.17

Although undergraduate scholastic average showed the highest correlation with graduate scholarship, that predictor variable was available on just a portion of the sample. The commonly available index which had the strongest relationship with graduate grades, then, was the General Professional Examination percentile rank. But an r of .34 is not sufficiently high to be very useful in identifying the individuals who will achieve at each of various levels during subsequent graduate study.

The reader will realize that the correlation coefficients were derived from distributions within which there was a restricted range of talent. Graduate grade point was the variable of special interest, and it was not only characterized by relatively small variability but probably also by shortcomings in reliability and possibly in validity. Thus a number of factors militated against substantial correlation between a predictive index and the criterion.

The correlation of .64 between scores on the Miller Analogies Test and the General Professional Examination was relatively high under the circumstances prevailing in this situation. It is relevant to report that in a recent supplementary investigation it was possible to administer both the Miller Analogies Test and the Concept Mastery Test to a sample of 94 graduate students; the resulting r was .61.

TABLE XIV

CORRELATION MATRIX INVOLVING FIVE VARIABLES

Variable	Miller Analogies Test Percentile Rank	General Professional Examination Percentile Rank	Graduate Grade Point Average	Undergraduate Grade Point Average	A. C. E. Psychological Examination Percentile Rank
Miller Analogies Test Percentile Rank		.64 *(.60)	.30 *(.29)	.19	.56
General Professional Examination Percentile Rank			.34 *(.31)	.36	.38
Graduate Grade Point Average				.42	.17
Undergraduate Grade Point Average					.28
A. C. E. Psychological Examination Percentile Rank					
Number of Individuals	238	238	238	163	152

* These figures represent the product-moment correlations for those who received both the Master's Degree and the Bachelor's Degree from the Iowa State Teachers College.